Technical Specification Group Services and System Aspects
Meeting #24, Seoul, Korea 7-10 June 2004

TSGS#23(04)0329

Source: TSG SA WG2 (S2-042333)
Title: Combined WID on SA2 WID Combining CS bearers with IMS with SA1 WID Adding media to CS calls and IPMM sessions
Agenda Item: 7.2.3

Work Item Description

Title: Combining CS bearers with IMS

1 3GPP Work Area

	Radio Access
X	Core Network
X	Services

2 Linked work items

none identified

3 Justification

Many operators regard IMS as a key feature. However, there remain issues with the efficiency of transferring Voice over IP over the radio interface, and, with the capability of the GSM radio interface to handle VoIP. Additionally, operators are interested in techniques to smooth the rollout and accelerate the take-up of IMS.

As a result of this, some companies have discussed and highlighted the following aspects:

- ~~u~~Using the existing CS infrastructure to transport the voice traffic; the PS domain to carry IMS signaling and 'non real time' user data; the IMS infrastructure to provide 'advanced services'; and "something" to combine them all together.
- Adding multimedia to the CS calls or adding CS calls to IMS sessions, using the CS infrastructure to setup CS calls ; using the PS domain to setup IMS services and something that combines the CS calls and IMS services together

These discussions have tended to show that there are many different techniques for combining the CS and IMS parts together. However, leaving mobile vendors, infrastructure vendors and operators to develop these different techniques in isolation is likely to lead to interoperability problems and fragmented, small markets.

Hence it is proposed to study the techniques for combining CS capabilities (i.e. bearers, voice service) with IMS and perform the specification work within the area as appropriate.

4 Objective

The ~~primary~~ objective is to standardise method(s) for combining the CS capabilities with IMS to better satisfy the existing requirements in TS 22.228, including the interoperability between the possible solutions. The first step towards this is to conduct a feasibility study on the architectural requirements; architectural solutions; and their tradeoffs.

The Feasibility Study shall cover different solutions for offering existing IMS simultaneous services (real-time media + non-real-time media) also in GERAN, where conversational PS spectrum efficiency is too low.

The target is to seek for architectural solution(s) completely transparent for the end-user, and easily interoperable with existing IMS services & networks that don't use this solution.

The solutions studied within the Feasibility Study are not necessarily restricted by existing service requirements. However, if an alternative is chosen to be included in specifications, it must be cross-checked with existing service requirements, and the need for adding new service requirements shall be evaluated by SA1.

It is the intend to study what is technical feasible amd which enhancements to existing standards, network equipment, and terminals are needed. Once the technical feasibility has been ascertained the commercial interests into these features has to be evaluated by SA1

Subsequent steps (eg the production of a TS; stage 3 CRs; and any work in IETF) should be identified during the concluding phases of the feasibility study.

5 Service Aspects

~~None identified.~~ Study of the following service aspects are included:

- ~~The intention is to~~ M~~m~~eeting existing IMS stage 1 requirements but with improved radio efficiency and/or utilisation of the existing GSM RAN.
- Detecting the ability of both involved terminals before offering the service to user
- Interconnecting two users in different PLMNs

6 MMI-Aspects

No specification is expected.

7 Charging Aspects

Inter-operator accounting and roaming charging aspects need to be considered.

The possibility to charge services, which combine voice with IP media at premium or at a discount, compared to aggregating the individual charges of CS and IP MM should be investigated.

The disconnection of both CS and IP media when exhausting a prepaid account should be investigated.

8 Security Aspects

The restriction and disclosure of terminal capabilities should be investigated (e.g. related to privacy).

~~*None anticipated.*~~

9 Impacts

Affects:	UICC apps	ME	AN	CN	Others
Yes		X		X	
No					~~X~~
Don't know	X		X		X

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
~~T~~R 23.898	Report on Alternative Architectures for Combining CS Bearers with IMS	SA 2	SA1	#26	#26	

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
?		This list should be completed when (and if) any stage 1 and/or stage 2 TS is presented to SA "for information"	#26	

11 Work item raporteurs

Mark Watson (Nortel Networks)

12 Work item leadership

SA 2

13 Supporting Companies

Cingular, Ericsson, ~~Lucent~~, Nortel Networks, ~~Qualcomm~~, Orange, TeliaSonera, TIM, Vodafone Group.

14 Classification of the WI (if known)

X	Feature (go to 14a)
	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

Building Blocks and Work Tasks are anticipated to be identified when the stage 2 is presented "for information".

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

form change history:
2002-07-04: "USIM" box changed to "UICC apps"